Amendments to the Claims

1. (Currently Amended) A method of constructing a computer program developed with an object-oriented programming language, the method comprising:

    declaring a base class as replaceable in a first source file;

    invoking, in the first source file, an operator to create an object of the base class;

    compiling the first source file into a first module, including emitting an instruction to create an object of the base class in response to the invoking of the operator to create in the first source file;

    defining a replacement class inheriting from the base class in a second source file;

    instructing in the second source file to replace the base class with the replacement class to cause creation of an object of the replacement class when the instruction in the first module to create an object of the base class is executed during program execution, the program execution occurring after the compiling of the first source file, the creation of the object of the replacement class occurring without recompiling the first source file;

    compiling the second source file into a second module; and

    combining the first and second modules in an executable program.

2. (Original) A method as in claim 1, wherein the object-oriented programming language is the C++ language.

3. (Original) A method as in claim 2, wherein the step of declaring the base class as replaceable includes defining a virtual constructor of the base class.

4. (Original) A method as in claim 2, further including declaring the replacement class as a replacement of the base class by defining a constructor of the replacement class for replacing the base class.

5. (Original) A method as in claim 1, wherein the step of compiling the second source file includes emitting in the second module an instruction to generate a class replacement record indicating that the replacement class is a replacement of the base class.

6. (Original) A method as in claim 5, wherein the step of compiling the first source file includes emitting an instruction in the first module to search for a class replacement record concerning the base class.

7. (Previously Presented) A method as in claim 6, wherein the step of compiling the first source file includes emitting creation information for an object of the base class in the first module, and wherein the step of compiling the second source file includes emitting creation information for an object of the replacement class in the second module.

8-15. (Cancelled)

16. (Currently Amended) A method of constructing source code in an object-oriented programming language, comprising the steps of:

declaring a base class as replaceable in a first source file;

defining a replacement class inheriting from the base class in a second source file;

declaring in the second source file that the replacement class is a replacement for the base class;

entering in the second source file an instruction to replace the base class with the replacement class during program execution, the program execution to occur after a compiling of the first source file, the replacing to occur without recompiling the first source file.

17. (Original) A method as in claim 16, wherein the object-oriented programming language is the C++ language.

18-21. (Cancelled)

22. (Currently Amended) A computer-readable medium having computer-executable instructions to ~~performs~~ perform a method for compiling a source listing in an object-oriented programming language into an executable module, the method comprising:

upon reading a statement in the source listing defining a first class as replaceable, emitting into the executable module a creation information block for the first class;

upon reading a statement in the source listing defining a second class inheriting from the first class as a replacement for the first class, emitting into the executable module a creation information block for the second class;

upon reading an instruction in the source listing to replace the first class with the second class, emitting an instruction to store a class replacement record for the first and second classes in a class replacement registration list; and

upon reading an instruction in the source listing to create an object of the first class, emitting into the executable module:

> an instruction to search the class replacement registration list and to return a pointer to the creation information block for the second class if a class replacement record for the first and second classes is found and otherwise to return a pointer to the creation information block for the first class; and
>
> an instruction to create, during program execution, an object according to the creation information block pointed to by the returned pointer, the program execution to occur after a compiling of the source listing, the creation of the object according to the creation information block to occur without recompiling the source listing.

23. (Original) A computer-readable medium as in claim 22, including further computer-executable instructions to perform the step of emitting a virtual destructor for the first class for deleting the object created.

24. (Original) A computer-readable medium as in claim 22, wherein the object-oriented programming language is the C++ language.